

Laser Diode Controllers

6300 SERIES COMBOSOURCE LASER DIODE CONTROLLERS

The **6300 Series ComboSource** Laser Diode Controller offers the best of both worlds: a high accuracy, low noise laser driver and a powerful 60W temperature controller, all in one compact instrument.



The **6300 ComboSource** was born from the proven technology of our LaserSource and TECSource products, and includes several improvements making it our flagship product, providing outstanding performance at a price that does not kill your budget.

Quick Specifications

	6301	6305	6310	6340	6310-QCL	6340-QCL
Laser Specifications						
Current (mA)	<i>Low Range</i>	50	250	500	2,000	500
	<i>High Range</i>	100	500	1,000	4,000	1,000
Compliance Voltage (V)		10	10	10	5	18
Enhanced QCL Functionality		No	No	No	No	Yes
TEC Specifications						
Current (A)	5					
Voltage (V)	12					
Sensor Support	Thermistor, RTD AD590, LM335					
RTD 4-wire Sense	Yes					
General Specifications						
Size (H x W x D) [in (mm)]	3.5 (90) x 8.5 (215) x 12 (305)					
Output Connector	DB-9 (Laser) and DB15 (TEC)					
Computer Interfaces	USB & RS-232					

At a Glance

100mA to 4 Amps
60 Watt TEC
Low noise, dual range
Advanced laser protection
Computer Interface



Easy to Use, Easy to Configure

Like all our products, you'll find the user interface is easy to setup and use. A dot-pixel character display allows for human-readable status, readings, and errors. No longer do you need to get out the manual to figure out how to set the current limit, or to understand what error 114 is; you can read it directly on the display in plain English. Want to see big numbers from across the room? No problem. Want to see actual versus set point, voltage, and current...all at once? You can do that, too. With a configurable display you can make the instrument work the way you want it to. Its compact form factor means the **ComboSource** takes up less room on your test bench, and the USB and RS232 computer interfaces make it easy to integrate into your existing test systems.

User Function Keys

The user function keys can be used to quickly select different configuration states or execute a predefined set of commands. Switch between two different experiments or script repetitive actions...anything you can do manually with the instrument can be programmed to the function key.

High Performance Temperature Control

In addition to being an excellent laser driver, the **ComboSource** also functions as a high performance temperature controller. Sixty watts of output power and fully adjustable PID control make it suitable for a wide range of applications.

Enhanced QCL Capabilities

The **6310-QCL** and **6340-QCL** Controllers provide a few key capabilities that optimize the controller for QCL application. Most importantly, the driver offers the higher compliance voltages typical of QCL lasers. In addition, wave number tables can be created and downloaded to the controller, allowing simple operation by wave number and letting the controller manage the necessary current and voltage.

Dual Range Operation & 4-Wire Sense

The **ComboSource** features dual current operating ranges for improved noise and accuracy for lower current applications without sacrificing headroom for your more power powerful devices. The **ComboSource** also has 4-wire sensor for accurate device voltage measurements. This eliminates voltage errors caused by cable and connector resistances.

Full Isolation Means No Ground Loops

Beyond the expected laser protection features, the **ComboSource** adds something unique to the Arroyo family of products: optical isolation of the modulation and photo diode inputs (the computer interfaces are also isolated). This protects against unwanted ground loops and other electrical disturbances that can plague traditional instruments and damage lasers. No other driver on the market has this capability.

Independent, Isolated Outputs

With multiple, independent power supplies, the **ComboSource** operates the laser and temperature controller outputs fully independent of each other, with full electrical isolation.